

## A NOTE ON SOME SIPUNCULANS (SIPUNCULA) FROM THE NORTHERN TERRITORY, AUSTRALIA

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### ABSTRACT

Six species of sipunculans are reported from the Northern Territory, Australia; the records of *Sipunculus tibubans* Selenka, de Man and Bülow, *Themiste variospinosa* Edmonds, *Aspidosiphon steenstrupii* Diesing and *Phascolosoma arcuatum* Gray are new for the Northern Territory.

KEYWORDS: Sipuncula, marine worms, Northern Territory, Australia.

### INTRODUCTION

Most of the sipunculans listed in this paper were collected, preserved and sent to me for identification by Mr Russell Hanley of the Northern Territory Museum. None of the species are new; all were described in Edmonds (1980) or Stephen and Edmonds (1972).

Very little is known about the Northern Territory species of this phylum of marine invertebrates. There are two previous records; they are of *Themiste lageniformis* Baird and *Phascolosoma pacificum* Kefers-tein (Edmonds 1980: 42, 63). The last general paper on Australian sipunculans was that of Edmonds (1980). More recent articles on the systematics of the phylum are those of Cutler, Cutler and Nishikawa (1984), Cutler and Cutler (1985a and 1985b), Cutler and Gibbs (1985) and Gibbs (1985).

### LIST OF SPECIES

*Sipunculus tibubans* Selenka, de Man and Bülow, 1883

*Themiste lageniformis* Baird, 1863

*Themiste variospinosa* Edmonds, 1980

*Aspidosiphon steenstrupii* Diesing, 1859

*Phascolosoma arcuatum* (Gray, 1828)

*Phascolosoma pacificum* Keferstein, 1866

### DETAILS OF SPECIES

#### *Sipunculus tibubans* Selenka, de Man and Bülow

*Sipunculus tibubans* — Edmonds 1980: 10-12, Figs 22-23.

**Material.** Off Tasman Point, Gulf of Carpentaria, one specimen, coll. J. Elder, July 1976.

**Notes.** Specimen long and cylindrical. Trunk, length 110 mm, maximum width 12 mm. Longitudinal musculature of trunk wall grouped in bands, 23 in mid-trunk and 22 at level of anus. Well-developed, finger-like processes attached to anterior dorsal rim of brain.

This large and well-preserved specimen corresponds very closely with two specimens collected from Weipa, Gulf of Carpentaria, Queensland and another from the mouth of Embly River, Queensland which were identified as *S. tibubans* by Edmonds (1980:11). Cutler (1985:236) has recently synonymised *S. tibubans* and *S. nudus* Linnaeus, the latter name having priority. I am inclined to the view that the specimens with 22 to 26 muscle bands from the Gulf of Carpentaria possess fewer bands than *S. nudus* which has 28 to 32 and consequently are different. Until more specimens are available for study I am leaving the designation of the specimens from the Gulf of Carpentaria for the time being as *S. tibubans*.

**Distribution.** Gulf of Carpentaria and Moreton Bay, Queensland; Zanzibar; Madagascar; Gulf of Siam; Thailand.

**Habitat.** Burrows in sand or sandy mud below level of low tide.

#### *Themiste lageniformis* Baird

*Themiste lageniformis* — Edmonds 1980: 41-42, Fig. 61.

**Material.** Lee Point, Darwin, from rock and coral, coll. A.J. Dartnall, 13 June 1976, NTM (Northern Territory Museum, Darwin) WS 17, SAM (South Australian Museum, Adelaide) E1208; East Point, Darwin, from rock and coral, coll. A.J. Dartnall, 11 June 1976, NTM WS1, WS2; Escape

Cliffs, Cape Hotham, coll. R. Hanley, 25 May 1985, NTM WS27.

**Distribution.** Queensland and north-west Western Australia; Indo-Pacific.

**Habitat.** Burrows in coral and calcareous reefs. Sometimes found under stones and rocks.

### *Themiste variospinosa* Edmonds

*Themiste variospinosa* — Edmonds, 1980:42-43, Figs 62, 69.

**Material.** Sandy I., no. 2, Northern Territory, from muddy bottom at 14 m, coll. R. Hanley, 25 May 1982; Trepang Bay, Cobourg Peninsula, at edge of rock platform, coll. R. Hanley, 15 October 1981, NTM WS39.

**Notes.** The specimens from both localities are small and the tentacular region of the introvert retracted. Although the arrangement of the tentacles could not be determined with certainty, the arrangement of the introvert hooks and the internal anatomy are like those of *T. variospinosa*. The species is allied to *T. huttoni* Benham.

**Distribution.** Queensland.

**Habitat.** Collected from burrows in rocks and from under rocks.

### *Aspidosiphon steenstrupii* Diesing

*Aspidosiphon steenstrupii* — Stephen and Edmonds 1972: 254-5, Fig. 28A; Cutler, Cutler and Nishikawa 1985: 308, Figs 13B, 13G.

**Material.** Orontes Reef, Cobourg Peninsula, in sand at 6m, coll. R. Hanley, 5 August 1982, NTM WS38.

**Distribution.** Queensland; Indo-Pacific.

**Habitat.** Rock-boring species.

### *Phascolosoma arcuatum* (Gray)

*Phascolosoma arcuatum* — Edmonds 1980 : 58-59, Figs 104, 109-111.

**Material.** From mud-flats associated with mangroves at Rapid Creek, Darwin, 16 March 1982, NTM WS10; mouth of Ludmilla Creek, Darwin, 26 March 1982, NTM WS9 and at various dates NTM WS10, WS22-26, WS28-35; mouth of Adelaide River, 26 May 1985, WS6, WS20-21, WS37; Creek "H", Darwin, WS4, WS8, WS11-16, WS19; all coll. by R. Hanley.

**Distribution.** In Queensland and north-west Western Australia where there are extensive growths of mangroves; Malaysia; Philippines.

**Habitat.** Forms burrows in mud and soil associated with mangrove flats.

### *Phascolosoma pacificum* Keferstein

*Phascolosoma pacificum* — Edmonds 1980: 62-63.

**Material.** Fannie Bay rocks, Darwin, specimen, coll. E. Pope, 11 October 1965, in Australian Museum, Sydney.

**Distribution.** Queensland to north-west Western Australia; Indo-Pacific.

**Habitat.** Under rocks; whether it is a rock-boring species is not known for sure.

## DISCUSSION

Sipunculans are a well-known component of the marine fauna of tropical, temperate and polar waters. Because they are burrowers in sand, mud, limestone and coral and live in protected places, they are not always easy to find. All the species in the present collection are known from other parts of Australia, especially from Queensland and Western Australia. The commonest species in the collection was *P. arcuatum* which is always associated with mangroves.

Collecting sipunculans usually requires slow and patient work. It involves digging in sand and mud, turning over rocks, and searching in limestone and coral reefs and in solitary corals, in pulling apart the roots of marine angiosperms, examining the discarded shells of small molluscs and the encrusting masses of serpulid worms, and in dredging. So far no specimens of *Cloeosiphon* Grube or of *Lithacrosiphon* Shipley, both inhabitants of coral reefs, have been found in the Northern Territory.

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Accepted 19 February 1986